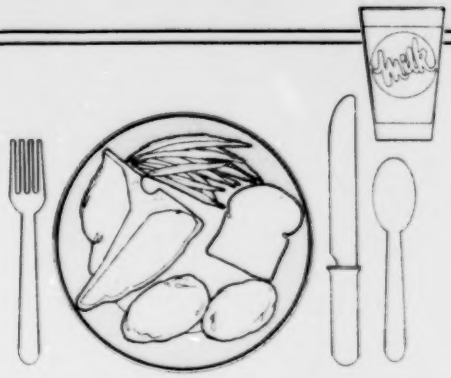
Market Margins



"Where does the consumer's food dollar go?" This is a question that is often asked and in response, Statistics Branch of Alberta Agriculture has on occasion released this publication called "Market Margins".

Prices for various agricultural commodities are collected at three levels in the marketing chain; the producer, wholesale, and retail levels. Due to processing activity, the food item purchased by the consumer is in a form different from the product leaving the farm gate. As a result of processing, and other marketing functions such as transportation, packaging and advertising performed at the wholesale and retail level, the price of the product at each market level will be different. In order to compare producer, wholesale and retail prices, the value of by-products in processing is deducted and the quantity of farm products required to produce the end consumer food product is calculated. For example, the value of by-products such as hides and fats used in the manufacture of other end by-products is deducted; in the baking of bread the proportions of farm products required to produce a loaf of bread must be determined. By making these adjustments, producer, wholesale and retail prices can be compared on a retail equivalent basis. The difference in retail equivalent prices at each marketing level for the same product is known as a "price spread". It is expressed in dollars per unit, whereas the term "margin" is used to express this difference as a percentage of the consumer's food dollar. All spreads plus the producer price total the retail price and all margins plus the producer's share equal 100 per cent.

In this issue of Market Margins, the results of the data collected are summarized for four main food items; milk, beef, pork and bread for the calendar year 1987. For more details concerning methodology, the reader is referred to previous issues and requested to contact the author directly.

BREAD

The methodology used in calculating bread price spreads was designed to determine price spreads for a 20 oz. (567 g) loaf of sliced white bread. Due to the disparity in retail prices between store brand and private brand white breads, prices and price spreads were calculated for each separately. The baking of store brand breads is done by the retail store and not by private bakeries as is private label breads. Three market levels are recognized in determining price spreads for store brand; the producer, the processor and the retail outlet. These three market levels, in addition to private bakeries are included in price spread estimation of private label bread.

Prices

At the producer level, the producer value for bread flour, rapeseed shortening,

CAUTIONARY NOTE

Changes in spreads do not necessarily indicate an increase or decrease in profitability at the various market levels. Costs are not included in the analysis, thus profitability cannot be established. In addition, Market Margins looks at specific products and attempts to adjust food items sold at each level to a retail equivalent basis. In doing so, by-products are created which have value and contribute to value of production at each level.

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427-4011
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Alberta
AGRICULTURE
Statistics Branch

TABLE 1 PRICE TO PRODUCERS FOR INGREDIENTS, 1987[a]
(Dollars per 100 loaves)

	#1 CWRS Wheat	Industrial Milk	Canola	Sugar Beets	Total
1st Quarter	5.50	2.74	.48	.18	8.90
2nd Quarter	5.50	2.74	.51	.18	8.93
3rd Quarter	4.84	2.77	.52	.17	8.30
4th Quarter	4.51	2.80	.56	.16	8.03
Year 1987	5.09[p]	2.76	.52	.17	8.54[e]
Year 1986	6.27[r]	2.68	.56	.25	9.76[r]

PRICE TO PROCESSORS FOR INGREDIENTS, 1987[a]
(Dollars per 100 loaves)

	Flour	Skim Milk Powder	Shortening	Sugar	Total
1st Quarter	19.00	3.26	1.21	.55	24.02
2nd Quarter	18.92	3.26	1.24	.55	23.97
3rd Quarter	18.92	3.26	1.24	.52	23.94
4th Quarter	19.17	3.26	1.24	.56	24.23
Year 1987	19.00	3.26	1.23	.55	24.04
Year 1986	18.73	3.23	1.26	.52	23.73

[a] Retail equivalent prices at producer and processor levels.
[p] Final payment for 1987/88 crop assumed to be zero.
[r] Revised

sugar beets for sugar and industrial milk for skim milk powder are estimated to determine the producer price of agricultural products used in baking bread (Table 1). In 1987, producer prices for wheat averaged $5.09/100 loaves, down 19 per cent from the revised value of $6.27/100 loaves in 1986.

Returns from sugar to producers averaged $0.17/100 loaves in 1987, down 32 per cent from the 1986 level of $0.25/100 loaves. However, since deficiency payments to producers for the 1986 and 1987 crops are not included in the analysis, this would have underestimated the producer returns from sugar.

Producer returns for canola declined 7 per cent from $0.56/100 loaves in 1986 to $0.52/100 loaves in 1987.

At the same time, returns to producers for industrial milk averaged $2.76/100 loaves, an increase of 3 per cent over the 1986 level of $2.68/100 loaves.

Total returns to producers in 1987 for all these products averaged $8.54/100 loaves, down 12.5 per cent from the revised value of $9.76/100 loaves in 1986.

Returns to processors (Table 1) for flour, skim milk powder, shortening and sugar increased marginally by 1.3 per cent in 1987 to $24.04/100 loaves. Millers[1] received $19.00/100 loaves for flour, an increase of 1.4 per cent and dairies received $3.26/100 loaves for skim milk powder, up 1 per cent from 1986. Processors of sugar received $0.55/100 loaves, up 5.8 per cent while processors of shortening received $1.23/100 loaves, down 2.4 per cent from 1986.

Bread prices at the producer, wholesale, retail levels are shown in Graph 1. Retail bread prices for Edmonton and Calgary for both store and private label bread are shown in Graph 2. Retail prices for store label bread showed a general increase for the first three quarters of 1987, followed by a decline in the fourth quarter. For the year, store label

[1] (Prices paid by millers for wheat are regulated by the Canadian Wheat Board under the Federal government's domestic wheat pricing policy.)

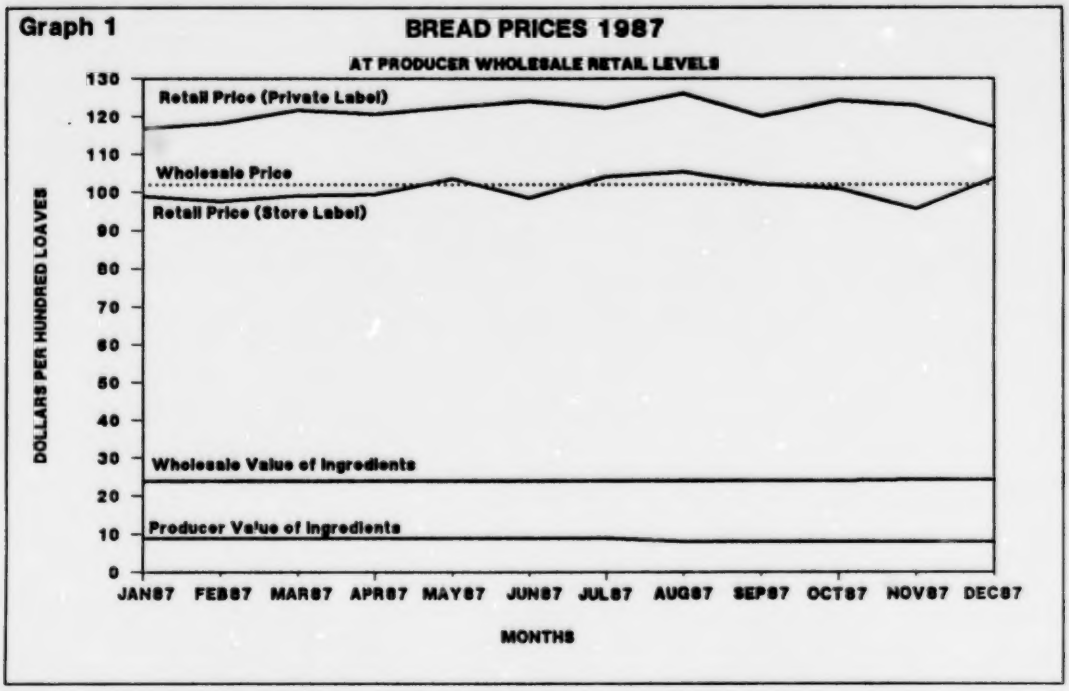
TABLE 2
QUARTERLY BREAD PRICES, SPREADS AND SHARE, 1987[a]
(Dollars per 100 loaves)

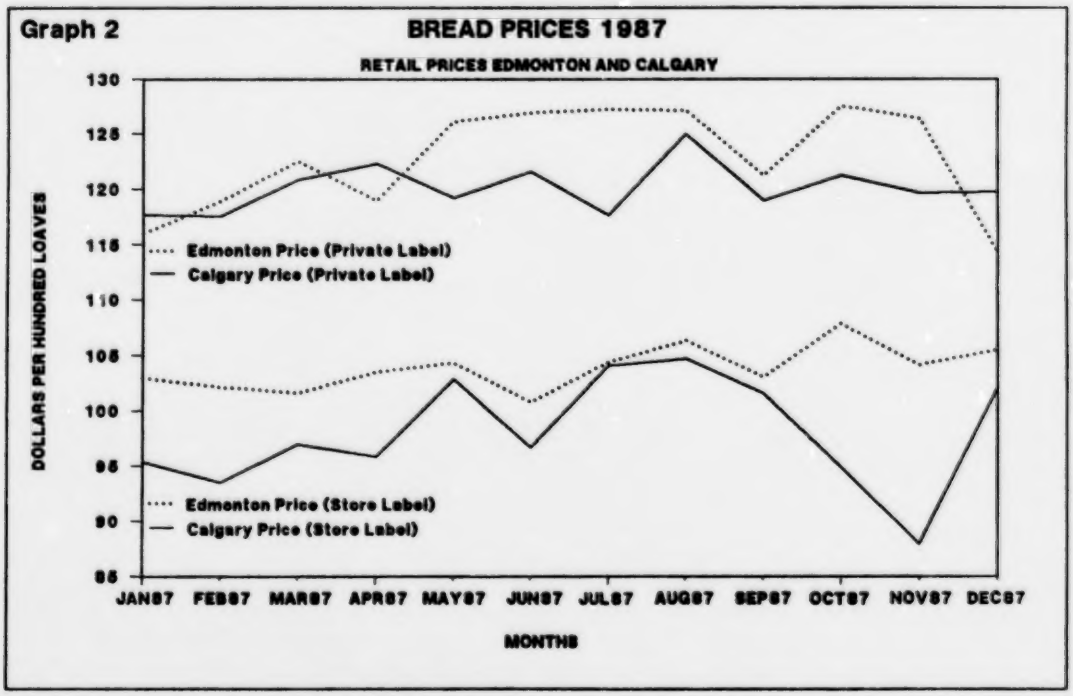
	Producer Price	Processor Price	Wholesale/ Baker Price	Retail Prices	
				Private Label	Store Label
1st Quarter	8.90	24.02	102.00	118.91	98.63
2nd Quarter	8.93	23.97	102.00	122.46	100.59
3rd Quarter	8.30	23.94	102.00	122.76	103.98
4th Quarter	8.03	24.23	102.00	121.42	100.17
Year 1987	8.54[e]	24.04	102.00	121.39	100.84
Year 1986	9.76[r]	23.73	93.17	110.62	94.08

Private Label	Producer-Processor Spread	Processor-Bakery Spread	Bakery-Retail Spread	Processor-Retail Spread	Producer-Retail Spread
1st Quarter	15.12	77.98	16.91	94.89	110.02
2nd Quarter	15.04	78.03	20.46	98.49	113.52
3rd Quarter	15.63	78.06	20.76	98.82	114.46
4th Quarter	16.20	77.77	19.42	97.19	113.39
Year 1987	15.50[e]	77.96	19.39	97.35	112.85[e]
Year 1986	13.94[r]	69.44	17.46	86.90	100.84[r]
Store Label					
1st Quarter	15.12	N/A	N/A	74.61	89.73
2nd Quarter	15.04	N/A	N/A	76.61	91.65
3rd Quarter	15.63	N/A	N/A	80.04	95.68
4th Quarter	6.20	N/A	N/A	75.94	92.14
Year 1987	15.50[e]	N/A	N/A	76.80	92.30[e]
Year 1986	13.94[r]	N/A	N/A	70.35	84.29[r]

Private Label	Producer's Share	Processor's Share	Wholesale/Baker's Share	Retailer's Share
1st Quarter	7.5	12.7	65.6	14.2
2nd Quarter	7.3	12.3	63.7	16.7
3rd Quarter	6.8	12.7	63.6	16.9
4th Quarter	6.6	13.3	64.1	16.0
Year 1987	7.0	12.8	64.2	16.0
Year 1986	8.8[r]	12.6[r]	62.8	15.8
Store Label				
1st Quarter	9.0	15.3	N/A	75.6
2nd Quarter	8.9	15.0	N/A	76.2
3rd Quarter	8.0	15.0	N/A	77.0
4th Quarter	8.0	16.2	N/A	75.8
Year 1987	8.5	15.4	N/A	76.2
Year 1986	10.4[r]	14.8[r]	N/A	74.8

N/A - Not Applicable [a] Totals may not add due to rounding.
[r] Revised [e] Final payment for 1987/88 crop assumed to be zero.


Graph 1
BREAD PRICES 1987
AT PRODUCER WHOLESALE RETAIL LEVELS
Retail Price (Private Label)
Wholesale Price
Retail Price (Store Label)
Wholesale Value of Ingredients
Producer Value of Ingredients
DOLLARS PER HUNDRED LOAVES
130
120
110
100
90
80
70
60
50
40
30
20
10
0
JAN87 FEB87 MAR87 APR87 MAY87 JUN87 JUL87 AUG87 SEP87 OCT87 NOV87 DEC87
MONTHS


Graph 2
BREAD PRICES 1987
RETAIL PRICES EDMONTON AND CALGARY
Edmonton Price (Private Label)
Calgary Price (Private Label)
Edmonton Price (Store Label)
Calgary Price (Store Label)
DOLLARS PER HUNDRED LOAVES
130
125
120
115
110
105
100
95
90
85
JAN87 FEB87 MAR87 APR87 MAY87 JUN87 JUL87 AUG87 SEP87 OCT87 NOV87 DEC87
MONTHS

brands averaged $100.84/100 loaves at the retail level, up 7.2 per cent or $6.76/100 loaves over 1986 (Table 2).

Private label bread prices at the retail level followed a similar pattern to store label bread. Prices increased in the first three quarters before declining in the fourth quarter. Private label retail bread prices averaged $121.39/100 loaves in 1987, an increase of 9.7 per cent over 1986.

Edmonton and Calgary retail prices for both store label and private label breads followed a similar pattern for most of 1987. Edmonton store label brands were consistently higher priced throughout the year, averaging $103.86/100 loaves compared to $98.04/100 loaves in Calgary. Edmonton retail prices for private label brands were generally higher throughout the year, averaging $122.76/100 loaves compared to $120.13/100 loaves in Calgary.

Spreads and Share

The distribution of the consumer's bread dollar in 1987 is indicated in Table 2. The producer-retail spread for private label bread increased 11.9 per cent in 1987 to $112.85/100 loaves while the increase for store label bread was 9.5 per cent to $92.30/100 loaves. The producer-processor spread increased $1.56 (+11.2 per cent) for both private and store label breads in 1987. Processor-retail spreads increased $10.45/100 loaves and $6.45/100 loaves for private and store label breads respectively.

The producer's share for private label bread declined 1.8 percentage points to 7.0 per cent. Similarily, the producer's share for store label bread declined 1.9 percentage points to 8.5 per cent. The extent of these declines may have been exaggerated due to the assumptions underlying the methodology and therefore should be interpreted with caution.

The producer-processor and producer-retail spreads continued to widen in 1987 as a result of declining producer prices and an increase in processor and retail prices. The processor's share increased marginally in 1987, up 0.2 percentage points to 12.8 per cent for private label bread and 0.6 percentage points to 15.4 per cent for store label bread. The retailer's share from store label bread increased to 76.2 per cent in 1987 from 74.8 per cent in 1986. Similarly, the retailer's share from private label bread increased from 15.8 per cent in 1986 to 16.0 per cent in 1987.

For private label bread, processors, wholesalers and retailers all increased their share of the retail price while producers saw their share decline. For store label bread, processors and retailers increased their share while the producers share declined.

MILK

Prices

Milk prices at producer, wholesale and retail levels are shown in Graph 3. The prices on the graph correspond to and are calculated from minimum prices set by the Public Utilities Board (P.U.B.).

As minimum prices at all three levels are regulated by the P.U.B., there is little fluctuation in P.U.B. prices. At the producer level, to adjust producer prices to a retail equivalent basis, the value of butterfat produced surplus to fluid milk requirements is subtracted. Surplus butterfat is used to manufacture butter and cheese. As the surplus butterfat is essentially a by-product of fluid milk manufacturing, the value of the butterfat used in the manufacture of other dairy products is deducted from the producer price to derive a retail equivalent price. The value of surplus butterfat subtracted fluctuates with: 1) changes in consumer demand for the type of milk product which affects the quantity of total butterfat consumed in milk products; 2) the amount of butterfat produced per hectolitre of milk on farms and; 3) the butterfat differential (i.e. the price of butterfat) paid or deducted per 0.1 kg butterfat.

As a result, price fluctuations for milk at the producer level (retail equivalent basis) can be greater than P.U.B. regulated price fluctuations for Class I fluid milk.

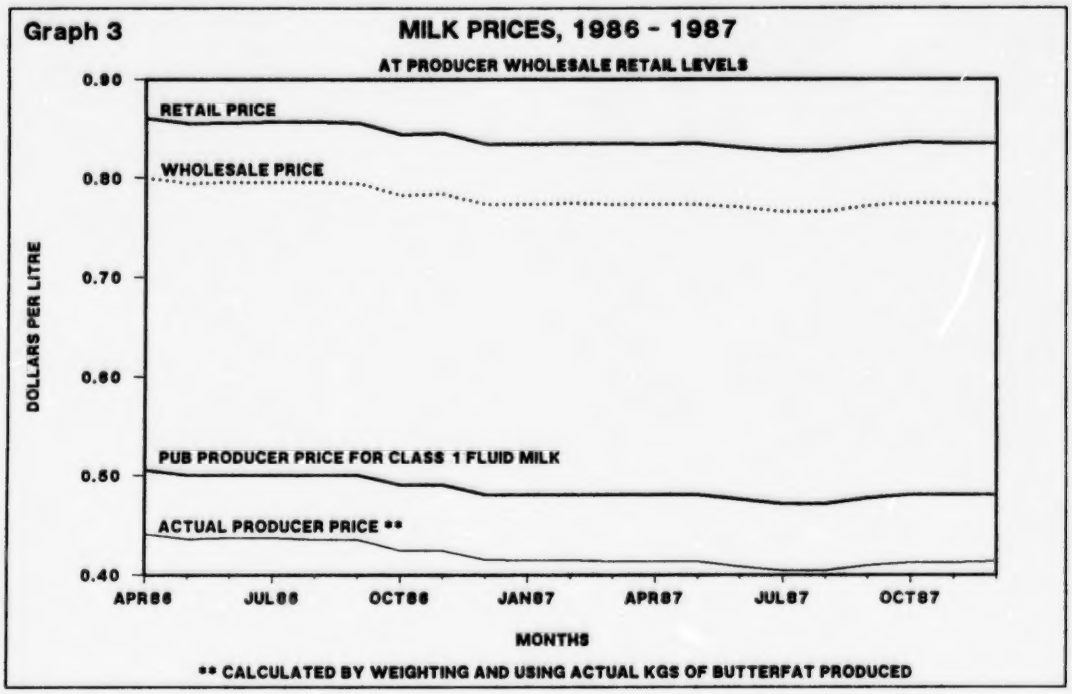
At the producer level, the P.U.B. regulated price for Class I fluid milk started the 1987 calendar year at $48.13/hl. This declined to $47.15/hl in mid-June but reverted back to $48.13/hl in mid-September to end the calendar year at the same level it began.

The actual producer price calculated by weighting and using actual kilograms (kgs) of butterfat produced followed the same pattern as the P.U.B. regulated producer price with

only subtle differences in the margin between them. This retail equivalent producer price began the year at $41.40/hl. A decrease to $40.80/hl in June followed by an increase to $41.20 in mid-September reflected changes in the P.U.B. regulated producer price.

At the wholesale and retail levels, weighted average prices were calculated based on the P.U.B.'s minimum wholesale and retail prices and actual fluid milk sales by month for the calendar year 1987.

The wholesale price started the year at $77.40/hl and declined to $76.60 in July following the June 15 P.U.B. price change. An increase in mid-September saw the wholesale price rise to $77.50/hl and remain at this level to end the year at $77.40/hl.



Retail prices followed a similar pattern starting the year at $83.50/hl. A reduction in June to $82.70/hl followed by an increase in September to $83.60 saw retail prices end the year at their original level.

For the calendar year 1987, producer prices averaged $41.10/hl, declining $2.5/hl (-5.73 per cent) from 1986 (Table 3). Wholesale prices averaged $77.30/hl, down $2.0/hl or -2.5 per cent from 1986. Retail prices for 1987 averaged $83.30/hl representing a decline of $1.7/hl (-2.0 per cent) from 1986.

The P.U.B. regulated minimum price of milk at the producer level was adjusted twice in 1987, reflecting changes in the feed cost component of the milk pricing formula used by P.U.B.

Spreads and Share

The distribution of the consumer's milk dollar is shown in Table 3. The producer-wholesale spread increased in 1987, averaging 36.2¢/litre, an increase of 0.5¢/litre (+ 1.4 per cent) over 1986. The wholesaler's share as a per cent of retail prices averaged 1.5 percentage points higher at 43.5 per cent. While the retail price of fluid milk declined in 1987, the retailer's share increased 0.5 percentage points to 7.2 per cent.

In 1987, the producer's share of the consumer's milk dollar declined to 49.3 per cent, down 2.0 percentage points. The wholesaler's share increased 1.5 percentage points to 43.5 per cent while the retailer's share increased 0.5 percentage points to 7.2 per cent from 6.7 per cent the previous year.

TABLE 3
QUARTERLY MILK PRICES[a], SPREADS AND SHARE, 1987[b]
(Dollars per litre)

	Producer Price*		Wholesale Price		Retail Price	
	1986	1987	1986	1987	1986	1987
1st Quarter	.448	.414	.798	.774	.845	.835
2nd Quarter	.438	.411	.797	.773	.857	.833
3rd Quarter	.436	.406	.796	.768	.857	.829
4th Quarter	.421	.412	.780	.775	.841	.835
YEAR	.436	.411	.793	.773	.850	.833

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1986	1987	1986	1987	1986	1987
1st Quarter	.350	.360	.047	.061	.397	.421
2nd Quarter	.359	.362	.060	.060	.419	.422
3rd Quarter	.360	.362	.060	.061	.420	.423
4th Quarter	.360	.363	.061	.060	.420	.423
YEAR	.357	.362	.057	.060	.414	.422

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1986 %	1987 %	1986 %	1987 %	1986 %	1987 %
1st Quarter	53.0	49.6	41.4	43.1	5.6	7.3
2nd Quarter	51.1	49.4	41.9	43.5	7.0	7.2
3rd Quarter	50.9	49.0	42.0	43.7	7.1	7.3
4th Quarter	50.1	49.4	42.7	43.5	7.3	7.2
YEAR	51.3	49.3	42.0	43.5	6.7	7.2

[a] Retail equivalent prices at producer and wholesale levels.
[b] Totals may not add due to rounding.
* Prices actually received by producer calculated by weighting and using actual kgs of butterfat produced.

PORK

Prices

Producer, wholesale and retail pork prices on a retail equivalent basis are shown in Graph 4. In 1987, prices at the producer level showed a decline in the first quarter of the year, an increase in the second and third quarters, followed by a decline in the fourth quarter. Except for a slight decline in the second quarter, wholesale prices followed the same trend as producer prices. At the retail level, prices in Edmonton and Calgary declined in the first and second quarters of 1987 before increasing to their highest level for the year in the third quarter, then declining moderately to the end of the year.

Increased Canadian hog production in 1987 contributed to the 2.3 per cent decline in Alberta producer prices from $2.21/kg in 1986 to $2.16/kg in 1987. However, since payments to producers under the Tripartite Red Meat Stabilization Program have not been included in the analysis, this would have underestimated the producers' receipts for pork. While producer prices declined, both wholesale and retail prices showed an increase over 1986. Wholesale prices averaged $3.81/kg, an increase of 5.3 per cent over 1986, and retail prices at $5.57/kg were 6.1 per cent higher in 1987.

Retail pork prices in Edmonton and Calgary did not differ markedly in 1987 with Calgary retail pork prices being 2.5 per cent higher overall.

Spreads and Share

The producer-wholesale spread widened again in 1987 (Table 4). On an annual average basis, the spread increased 18.6 per cent from $1.40/kg to $1.66/kg due to lower producer prices. Wholesale-retail spreads also rose in 1987. For the year, the spread widened to $1.76/kg from $1.64/kg, up 7.3 per cent. Producer-retail spreads increased 12.2 per cent from $3.04/kg to $3.41/kg.

The producer's share of the consumer's pork dollar decreased from 42.0 per cent to 38.7 per cent in 1987, a decline of 3.3 percentage points. Both the wholesaler's and retailer's share increased in 1987. The wholesaler's share increased 2.7 percentage points to 29.7 per cent while the retailer's share increased 0.7 percentage points to 31.7 per cent.

Graph 4 PORK PRICES 1987

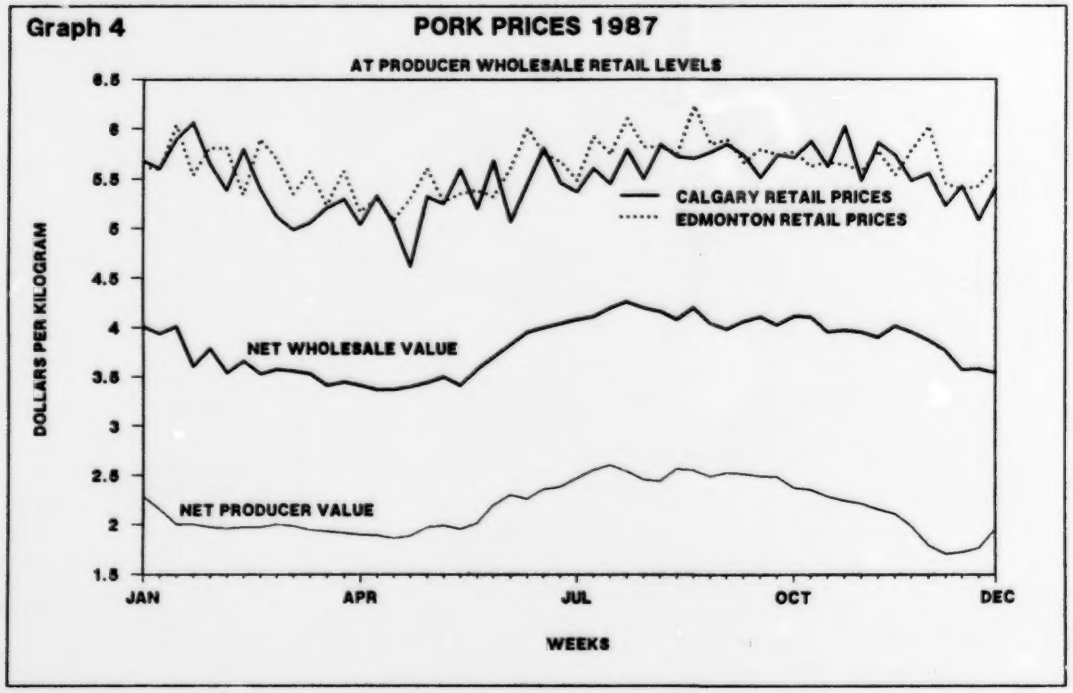


TABLE 4
QUARTERLY PORK PRICES[a], SPREADS AND SHARE, 1987[b]
(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1986	1987	1986	1987	1986	1987	Edm. 1987	Cal. 1987
1st Quarter	1.94	2.00	3.36	3.66	4.67	5.55	5.47	5.62
2nd Quarter	1.86	2.07	3.22	3.61	4.68	5.37	5.30	5.45
3rd Quarter	2.62	2.51	3.85	4.11	5.72	5.75	5.66	5.83
4th Quarter	2.43	2.04	4.03	3.86	5.93	5.61	5.57	5.64
YEAR	2.21	2.16	3.62	3.81	5.25	5.57	5.50	5.64

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1986	1987	1986	1987	1986	1987
1st Quarter	1.42	1.66	1.31	1.89	2.73	3.55
2nd Quarter	1.36	1.54	1.46	1.76	2.82	3.30
3rd Quarter	1.22	1.60	1.87	1.63	3.10	3.23
4th Quarter	1.60	1.82	1.90	1.75	3.50	3.56
YEAR	1.40	1.66	1.64	1.76	3.04	3.41

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1986 %	1987 %	1986 %	1987 %	1986 %	1987 %
1st Quarter	41.5	36.1	30.4	29.9	28.1	34.1
2nd Quarter	39.7	38.6	29.1	28.7	31.2	32.8
3rd Quarter	45.9	43.7	21.5	27.8	32.7	28.5
4th Quarter	41.0	36.4	27.0	32.4	32.0	31.2
YEAR	42.0	38.7	27.0	29.7	31.0	31.7

[a] Retail equivalent prices at producer and wholesale levels.
[b] Totals may not add due to rounding.

BEEF

Prices

Alberta slaughter cattle and beef wholesale prices declined in the first quarter of 1987 from the fourth quarter of 1986, due to increased supplies and increased carcass weights during this period (Graph 5). Renewed price strength in the second quarter of 1987 was the result of tightening supplies and a narrowing of the basis between Alberta markets and other Eastern Canadian and U.S. markets. Producer and wholesale beef prices declined slightly in the third quarter before ending the year at just above third quarter levels. Retail beef prices showed a gradual increase from the fourth quarter of 1986 through to the end of 1987.

Producer, wholesale and retail beef prices were higher in 1987 than in 1986(Table 5). Producer prices increased to $3.99/kg in the second quarter before declining to $3.86/kg in the third quarter to end the year at $3.88/kg. For the calendar year, producer prices were 8.8 per cent higher due to lower beef production in 1987. Wholesale prices followed a similar pattern to producer prices peaking at $4.18/kg in the second quarter before dropping off to $4.06/kg in the third, then ending the year at $4.09/kg. For the calendar year, wholesale prices were 6.3 per cent higher than in 1986. Retail beef prices were 10.2 per cent higher overall in 1987 than in 1986.

Spreads and Share

Producer-wholesale spreads in 1987 declined 20.7 per cent from $0.29/kg in 1986 to $0.23/kg in 1987 due to strengthening producer prices. Wholesale-retail spreads increased throughout the year. The 1987 annual average spread was $3.15/kg compared to $2.75/kg in 1986. Producer-retail spreads were also higher in 1987. The annual average spread was $3.38/kg, up 11.9 per cent over 1986.

The producer's share of the consumer's beef dollar declined marginally in 1987 from 54.0 per cent to 53.2 per cent. The wholesaler's share declined 1.2 percentage points to 3.2 per cent while the retailer's share was consistently higher in 1987 and averaged 43.6 per cent, up 2.1 percentage points over 1986.

Graph 5

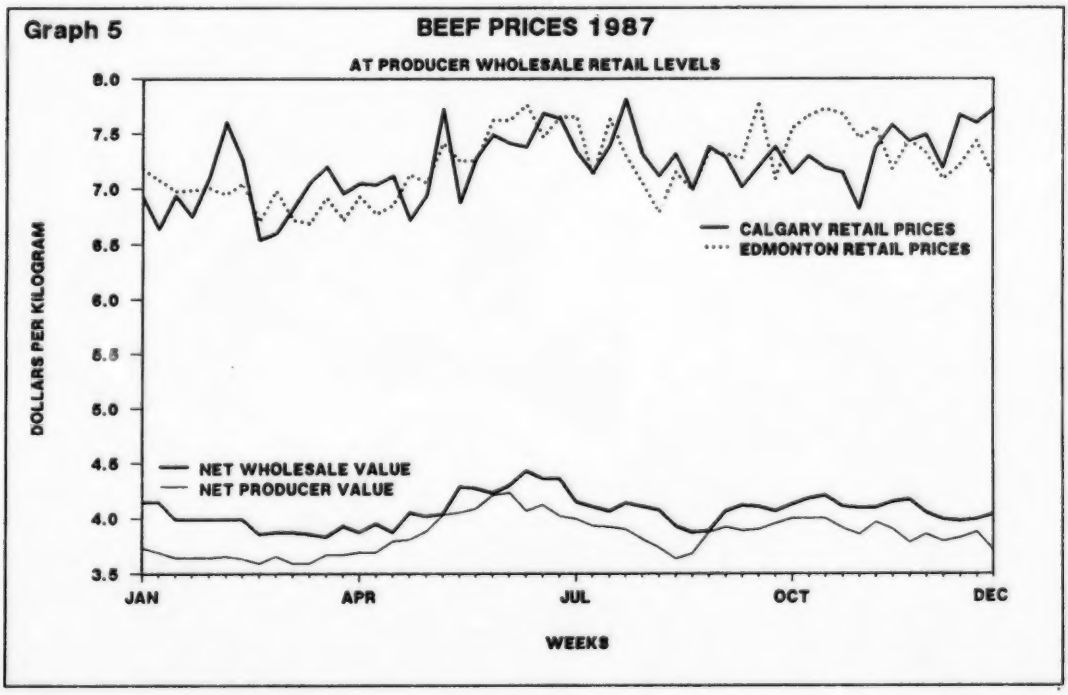


TABLE 5
QUARTERLY BEEF PRICES[a], SPREADS AND SHARE, 1987[b]
(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1986	1987	1986	1987	1986	1987	Edm. 1987	Cal. 1987
1st Quarter	3.48	3.65	3.83	3.96	6.47	6.94	6.92	6.95
2nd Quarter	3.37	3.99	3.64	4.18	6.37	7.27	7.29	7.26
3rd Quarter	3.49	3.86	3.76	4.06	6.45	7.28	7.27	7.28
4th Quarter	3.83	3.88	4.09	4.09	6.92	7.39	7.42	7.36
YEAR	3.54	3.85	3.83	4.07	6.55	7.22	7.23	7.21

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1986	1987	1986	1987	1986	1987
1st Quarter	.34	.31	2.67	2.98	3.01	3.29
2nd Quarter	.28	.18	2.72	3.10	3.00	3.28
3rd Quarter	.28	.20	2.70	3.22	2.97	3.42
4th Quarter	.26	.21	2.84	3.29	3.10	3.51
YEAR	.29	.23	2.73	3.15	3.02	3.38

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1986 %	1987 %	1986 %	1987 %	1986 %	1987 %
1st Quarter	53.8	52.5	5.4	4.5	40.8	42.9
2nd Quarter	52.9	54.9	4.2	2.6	42.9	42.5
3rd Quarter	54.1	53.0	4.2	2.7	41.7	44.2
4th Quarter	55.3	52.5	3.8	2.8	40.9	44.7
YEAR	54.0	53.2	4.4	3.2	41.5	43.6

[a] Retail equivalent prices at producer and wholesale levels.
[b] Totals may not add due to rounding.